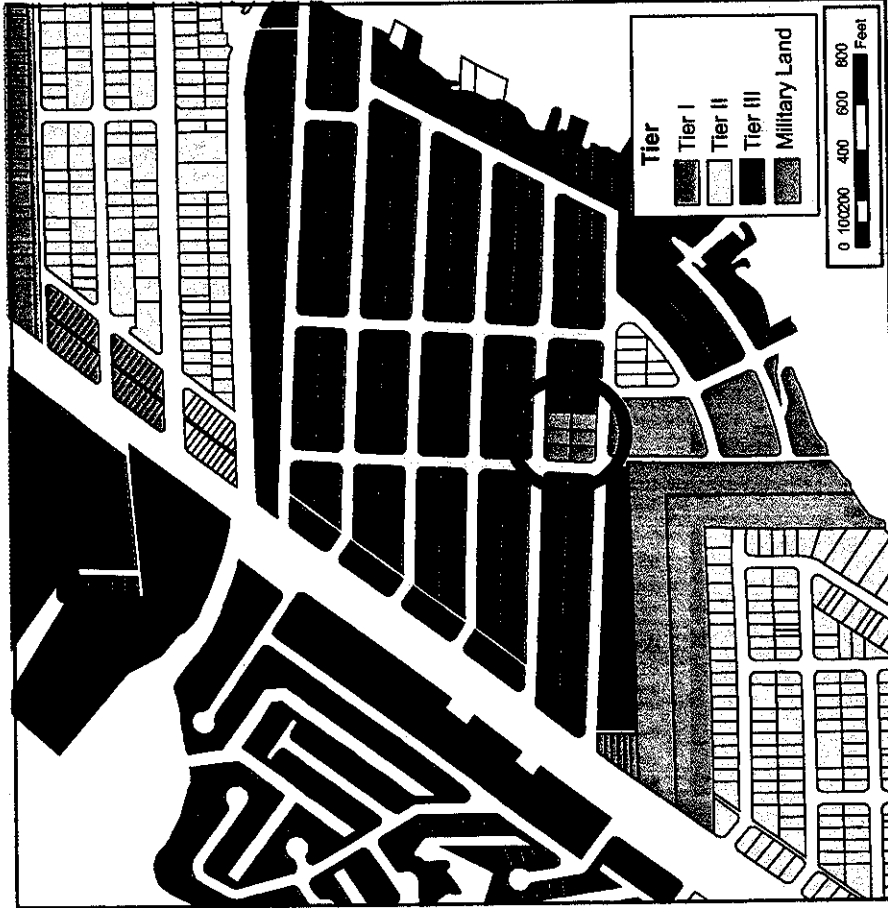


Key Largo, Recommended Removing Conservation and Natural Area Designation



Key Largo, approximate Mile Marker 103:

The County Biologist has verified that the vegetation on these six lots are low quality hammock, under four acres, and not identified as CARL acquisition lands and are unconnected to the hammock to the south (which are identified as CARL acquisition lands).

A site inspection revealed a house on one of the lots which is not visible on the orthophoto. The hammock then, is less than 1/4 an acre.

The six lots belong to an IS (Improved Subdivision) which is designated Tier III because it is over 50% developed.

Staff recommends removing the designation.



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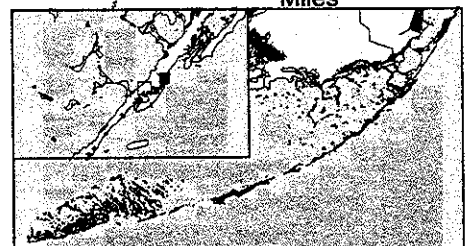
ATTACHMENT

2

80°27'0"W



Map created by Florida Fish and Wildlife Conservation Commission, Florida Marine Research Institute



ATTACHMENT

3

Monroe County Conservation and Natural Areas with ADID Upland: Detailed Example MM 95

*The white figures inside the polygons represent
approximate upland acreage.*



Monroe County Conservation and Natural Areas with ADID Upland: Detailed Example MM 98.5

*The white figures inside the polygons represent
approximate upland acreage.*

■ Conservation and
Natural Areas
□ ADID Upland \geq 1 Acre
— US 1
• Mile Marker
Aerial Source: 1999-2000
USGS DOQQ

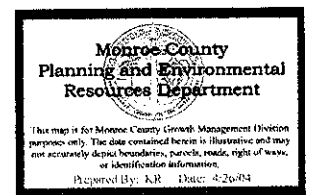
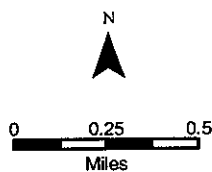
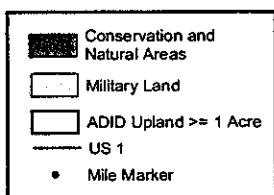
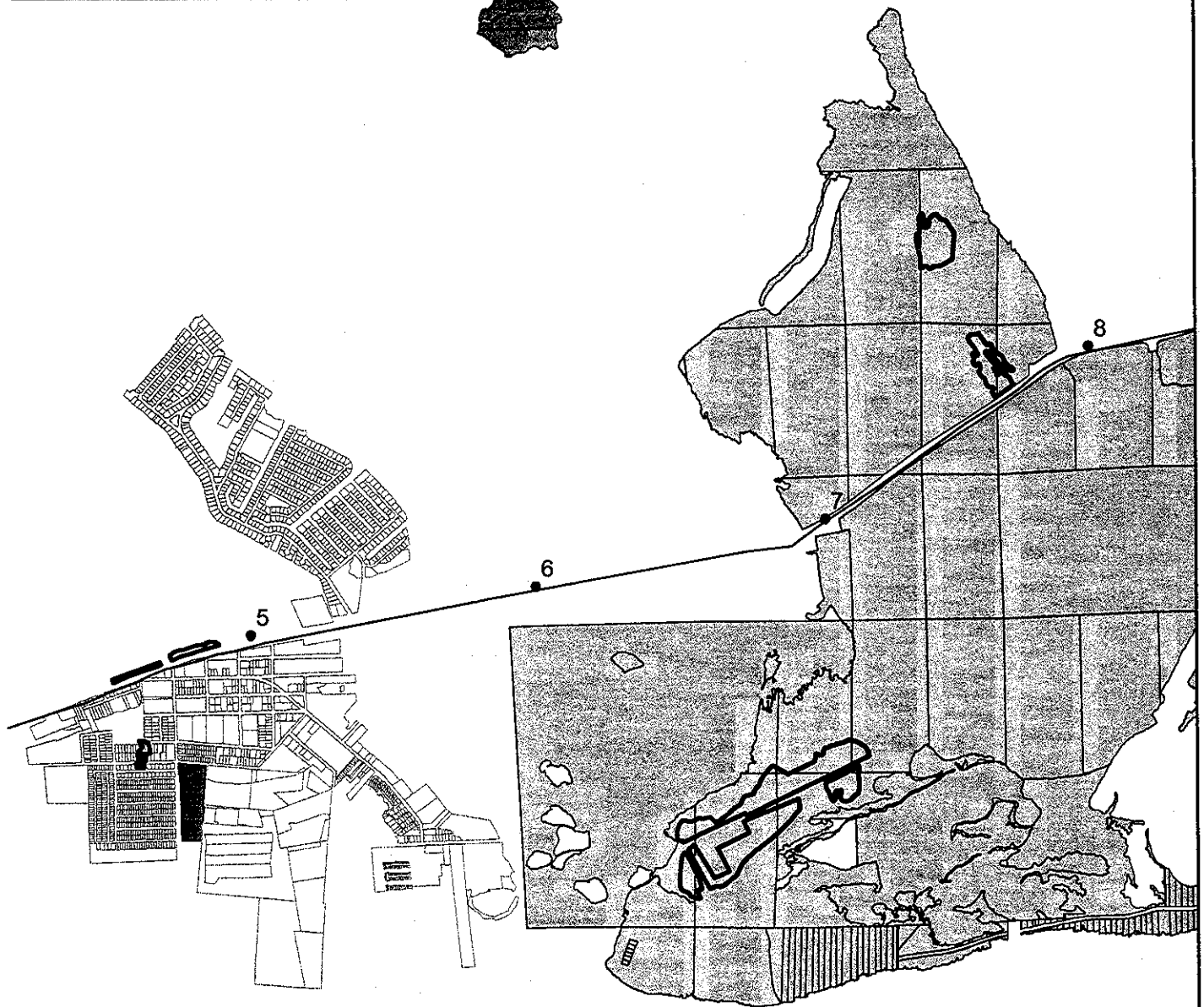


Monroe County
Planning and Environmental
Resources Department
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purpose only. The data contained herein is illustrative and may
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or identification information.
Prepared by: KK Date: 4/26/04

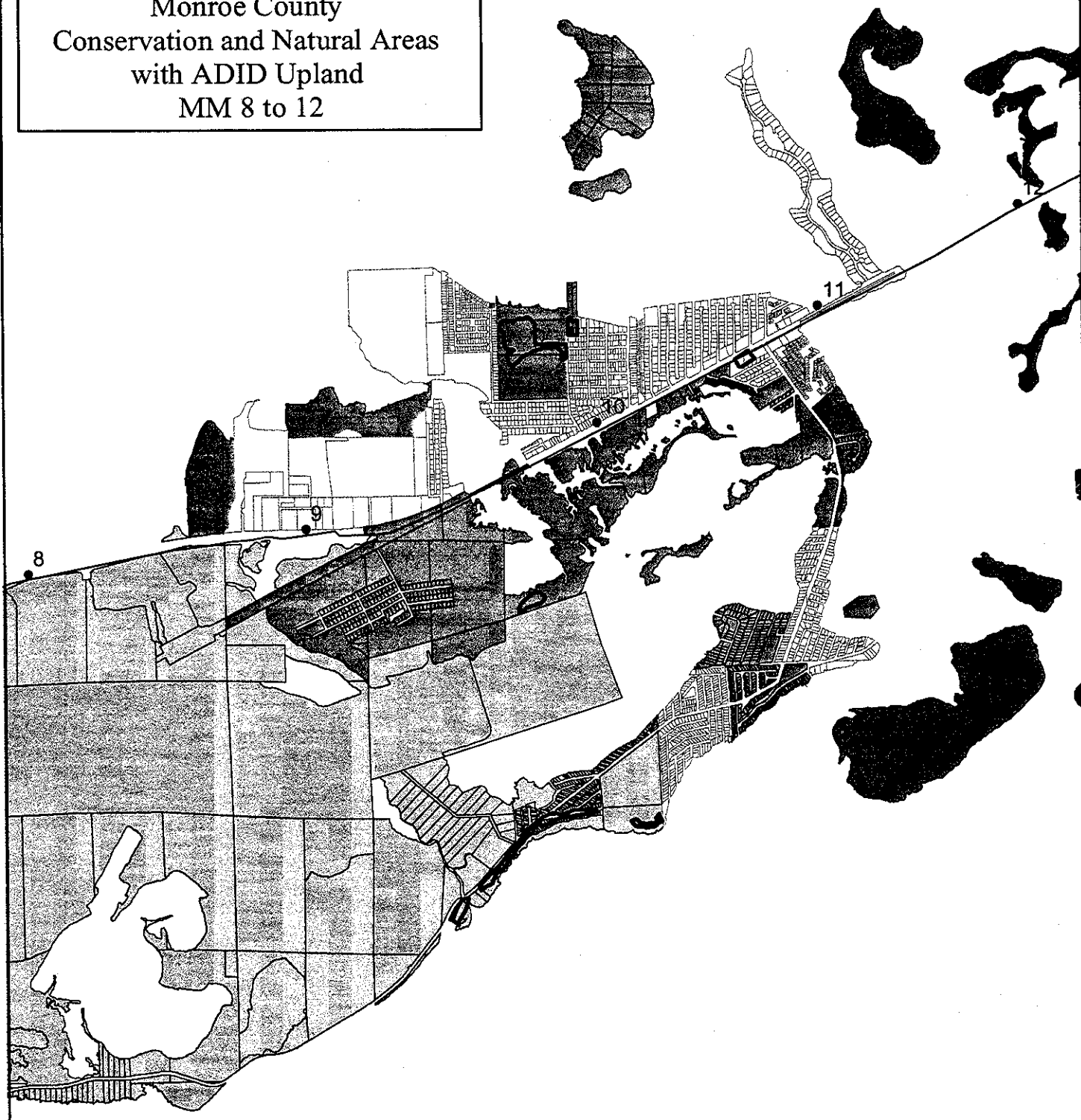
ATTACHMENT

4

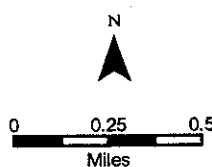
Monroe County
Conservation and Natural Areas
with ADID Upland
MM 4 to 8



Monroe County Conservation and Natural Areas with ADID Upland MM 8 to 12



- Conservation and Natural Areas
- Military Land
- ADID upland ≥ 1 Acre
- US 1
- Mile Marker

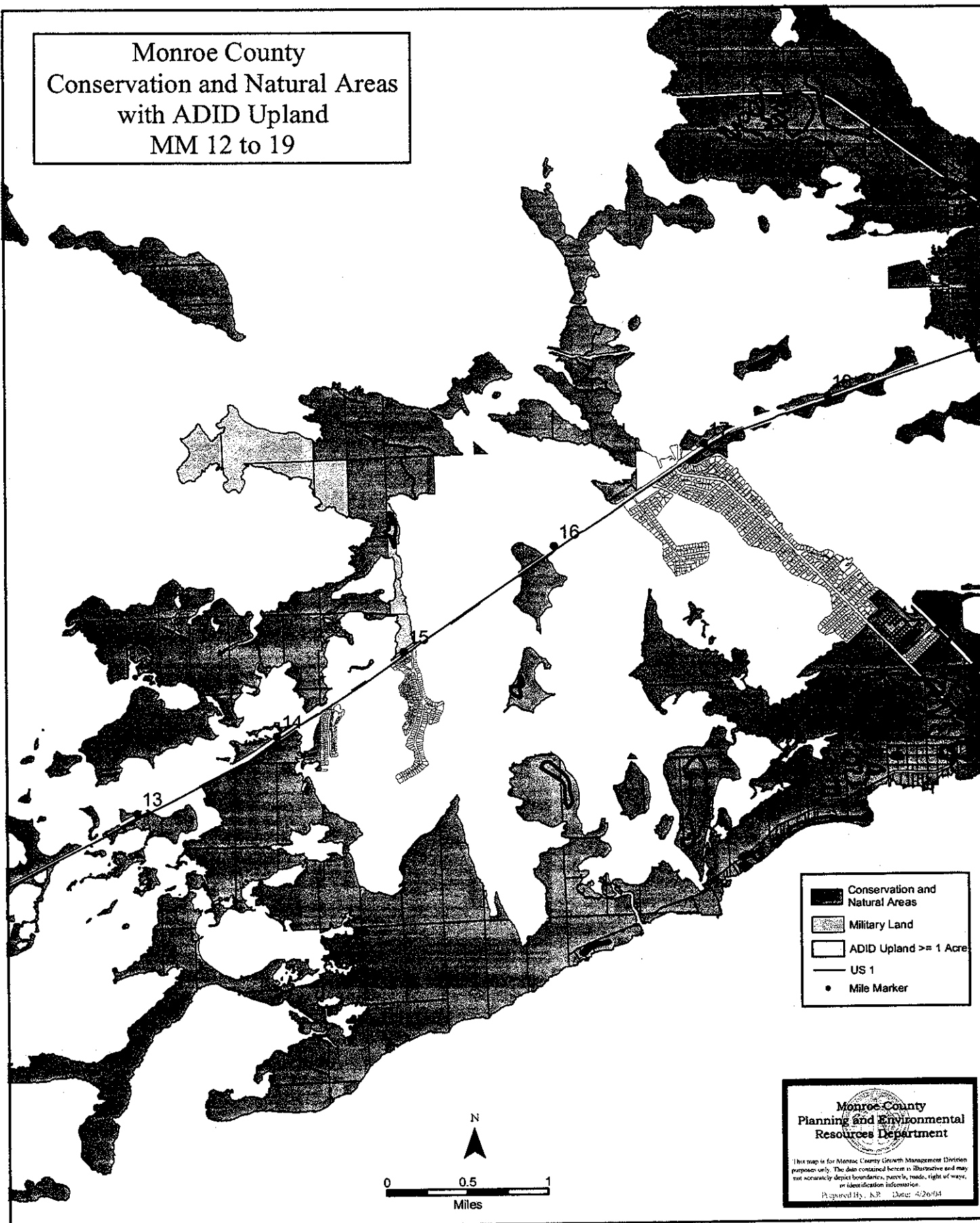







Monroe County
Planning and Environmental
Resources Department

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Prepared By: J.R. Date: 4/26/04

Monroe County
Conservation and Natural Areas
with ADID Upland
MM 12 to 19

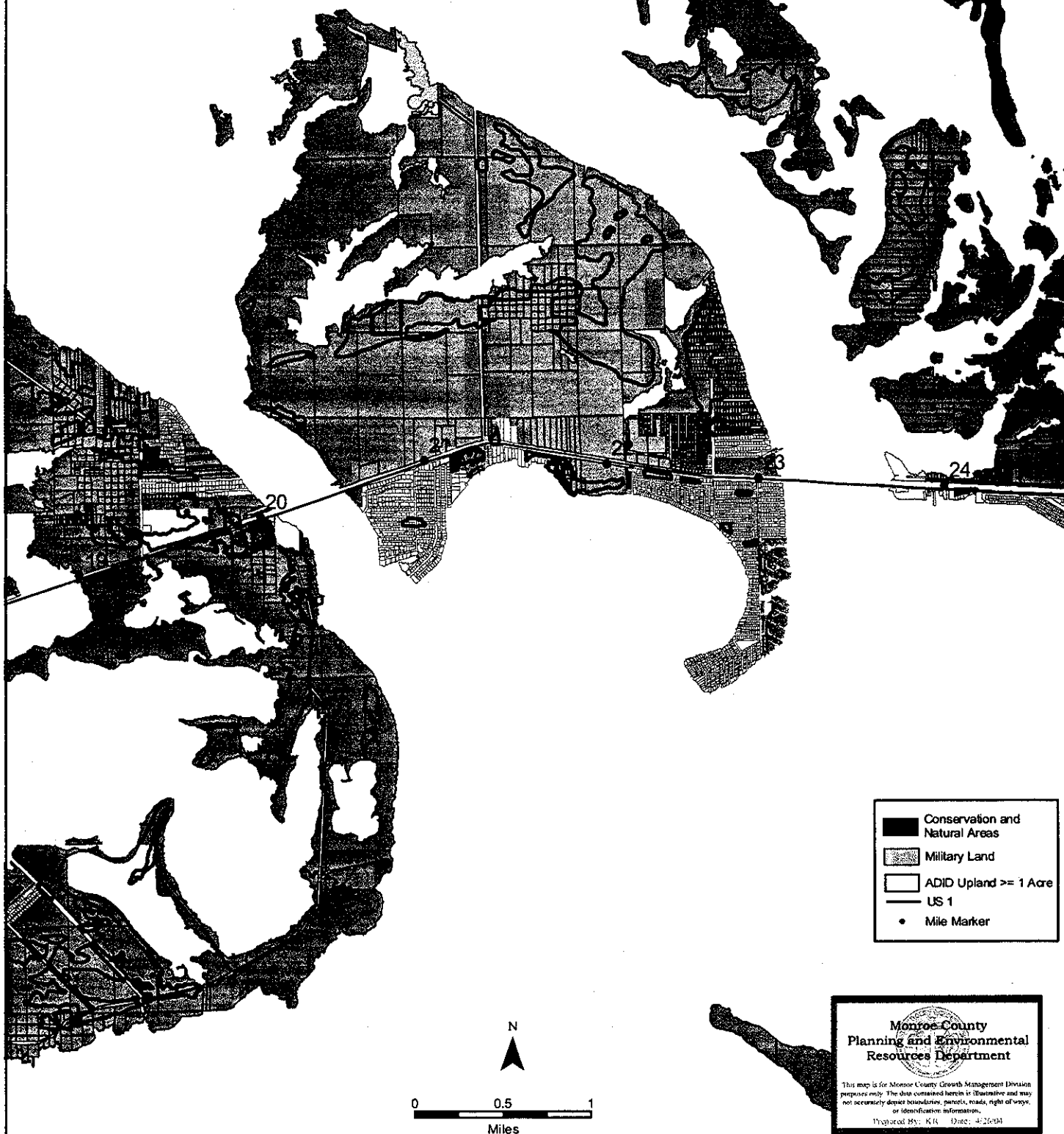


-  Conservation and Natural Areas
-  Military Land
-  ADID Upland ≥ 1 Acre
-  US 1
-  Mile Marker

Monroe County
Planning and Environmental
Resources Department

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Prepared By: K.P. Date: 4/26/04

Monroe County
Conservation and Natural Areas
with ADID Upland
MM 19 to 24

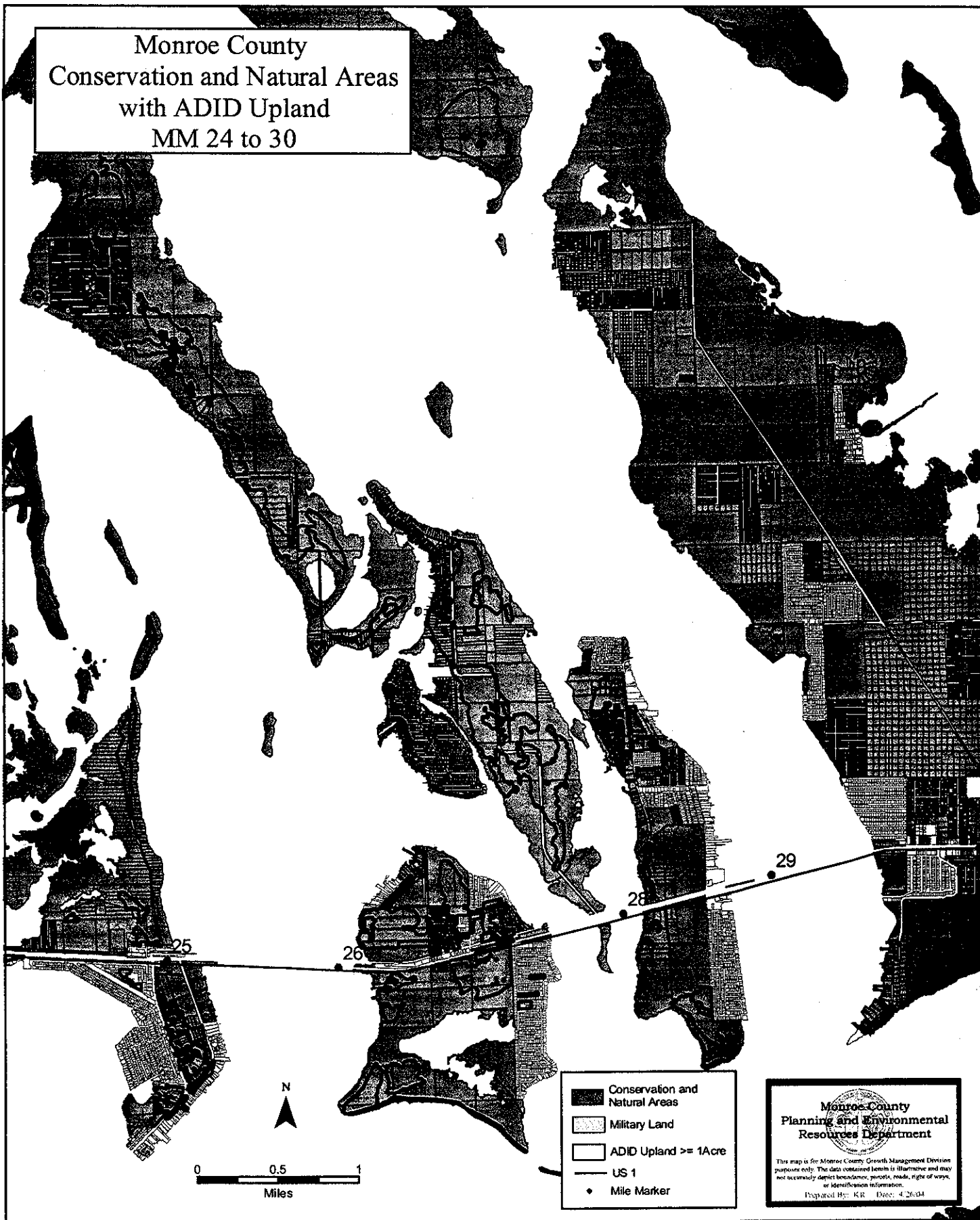


- Conservation and Natural Areas
- ▨ Military Land
- ADID Upland ≥ 1 Acre
- US 1
- Mile Marker

**Monroe County
Planning and Environmental
Resources Department**

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Prepared By: KIR Date: 4/22/04

Monroe County
Conservation and Natural Areas
with ADID Upland
MM 24 to 30



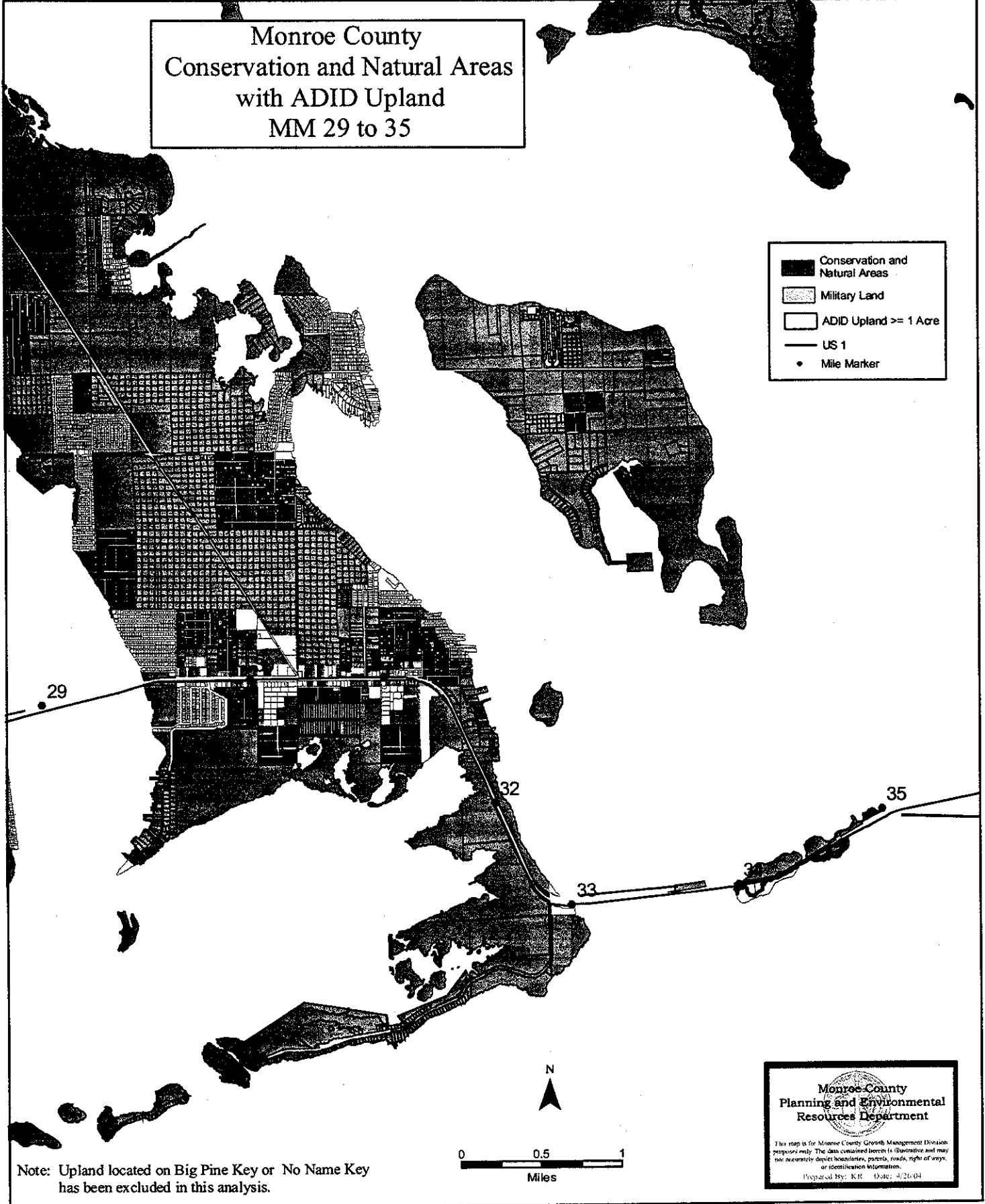
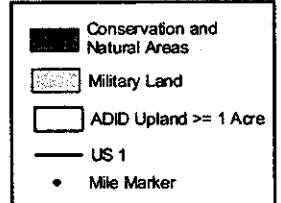
- Conservation and Natural Areas
- Military Land
- ADID Upland ≥ 1 Acre
- US 1
- Mile Marker

Monroe County
Planning and Environmental
Resources Department

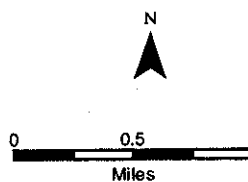
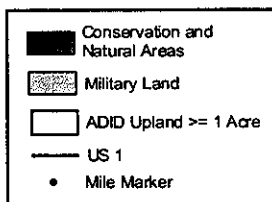
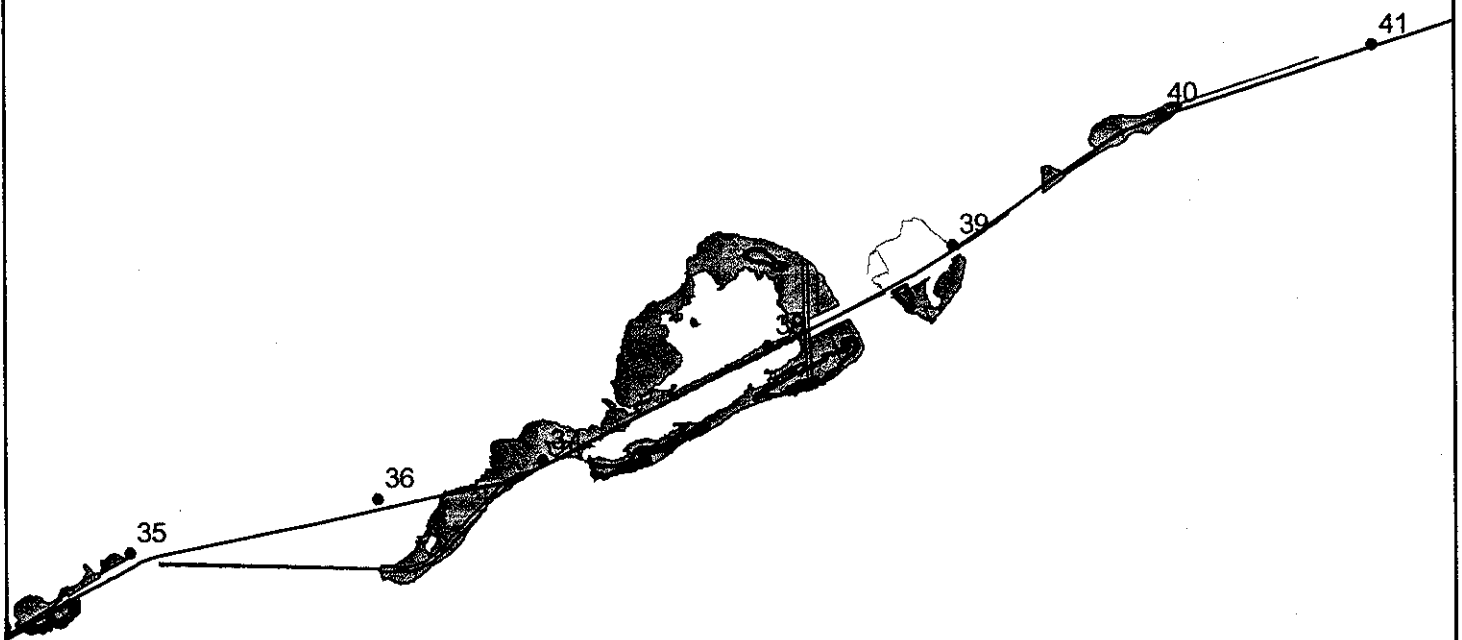
This map is for Monroe County Growth Management Division purposes only. The data contained herein is illustrative and may not accurately depict boundaries, parcels, roads, right of ways, or identification information.

Prepared By: KR Date: 4/26/04

Monroe County
Conservation and Natural Areas
with ADID Upland
MM 29 to 35



Monroe County Conservation and Natural Areas with ADID Upland MM 35 to 41

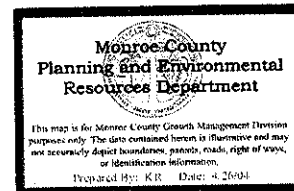
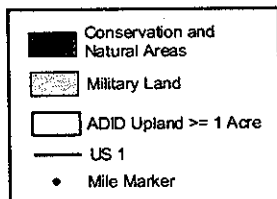
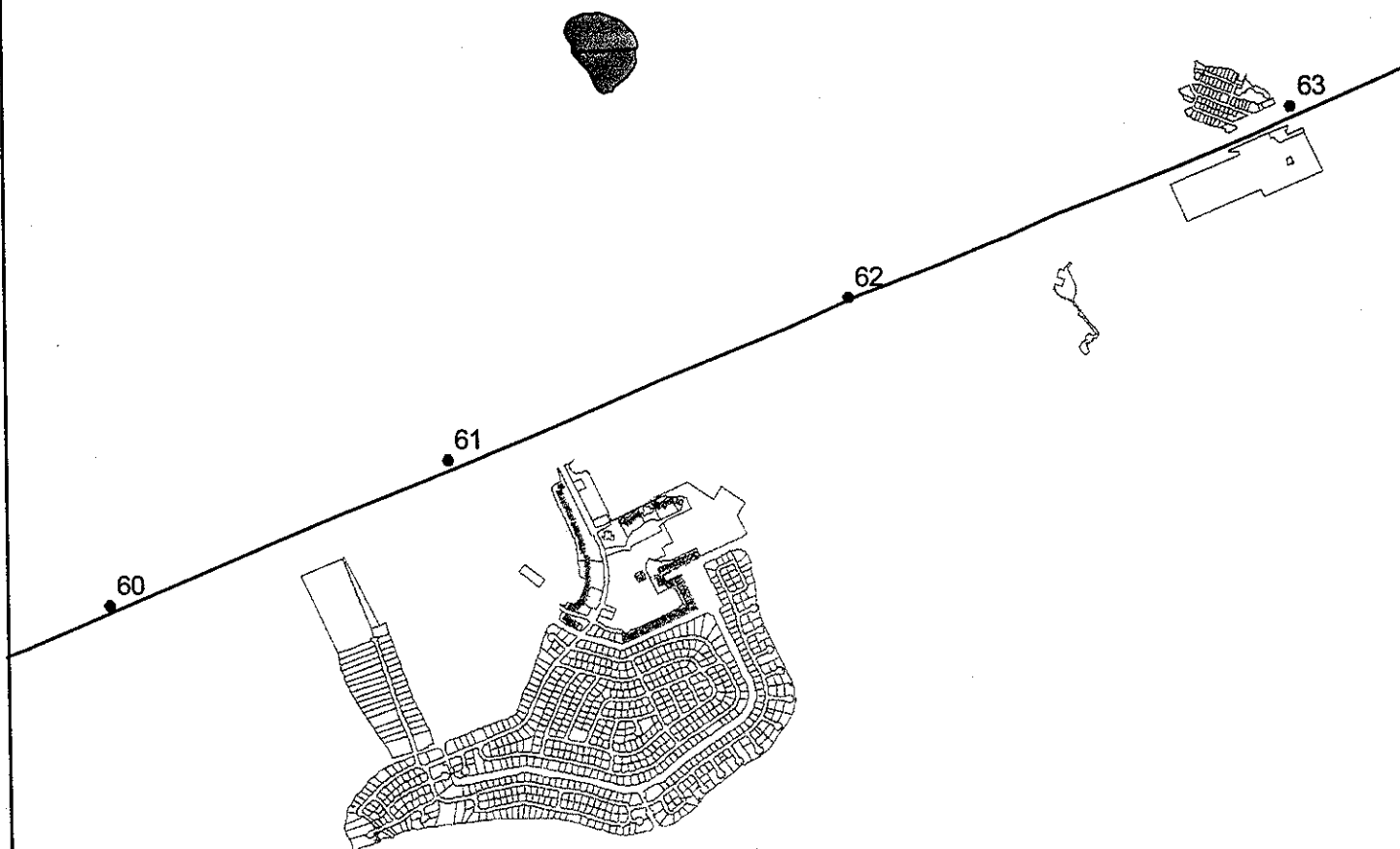


Monroe County
Planning and Environmental
Resources Department

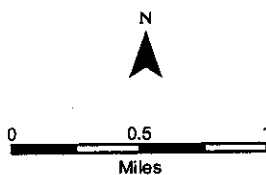
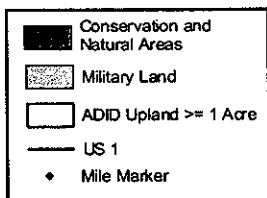
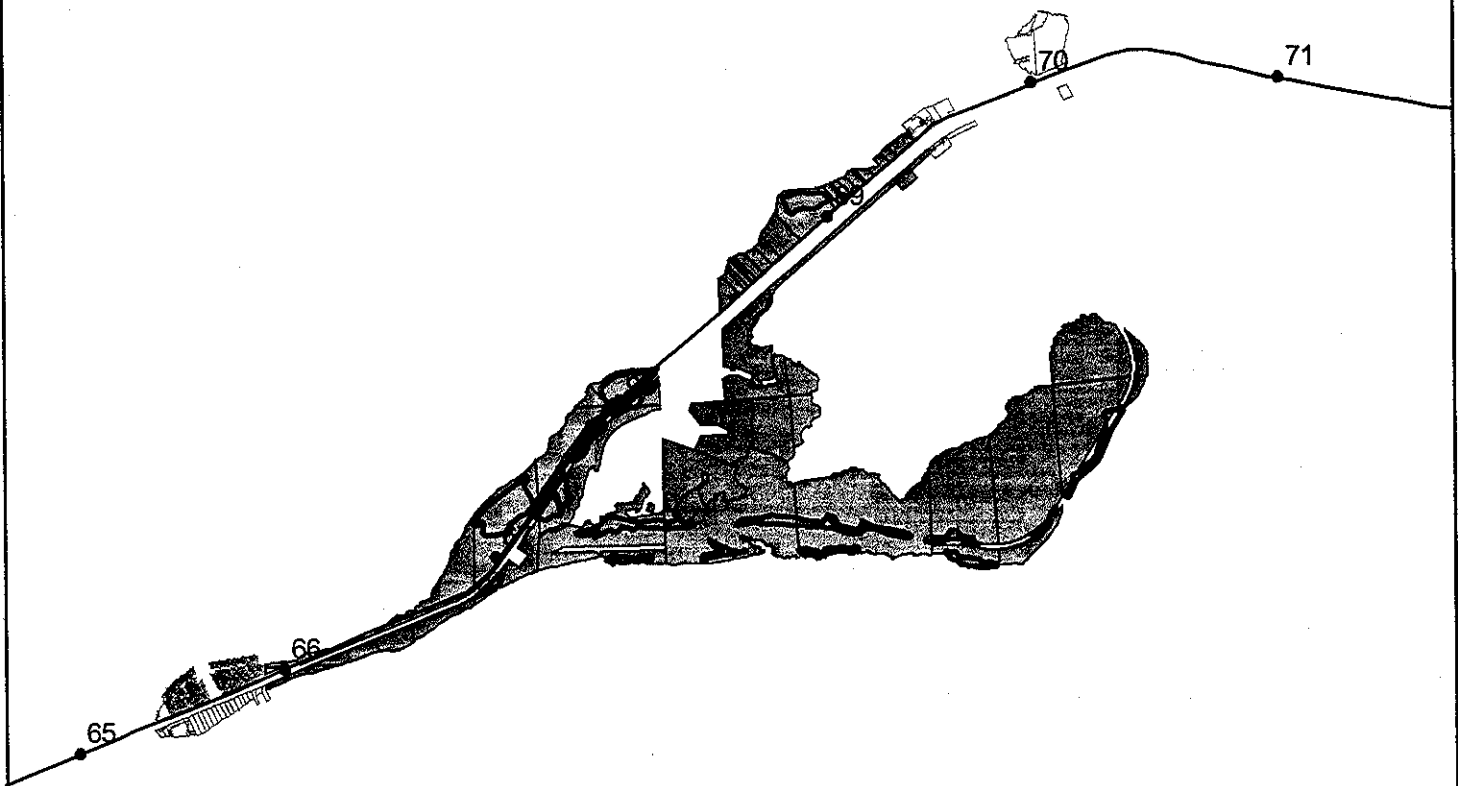
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Prepared By: KR Date: 4/26/04

Monroe County Conservation and Natural Areas with ADID Upland MM 60 to 63



Monroe County Conservation and Natural Areas with ADID Upland MM 65 to 71

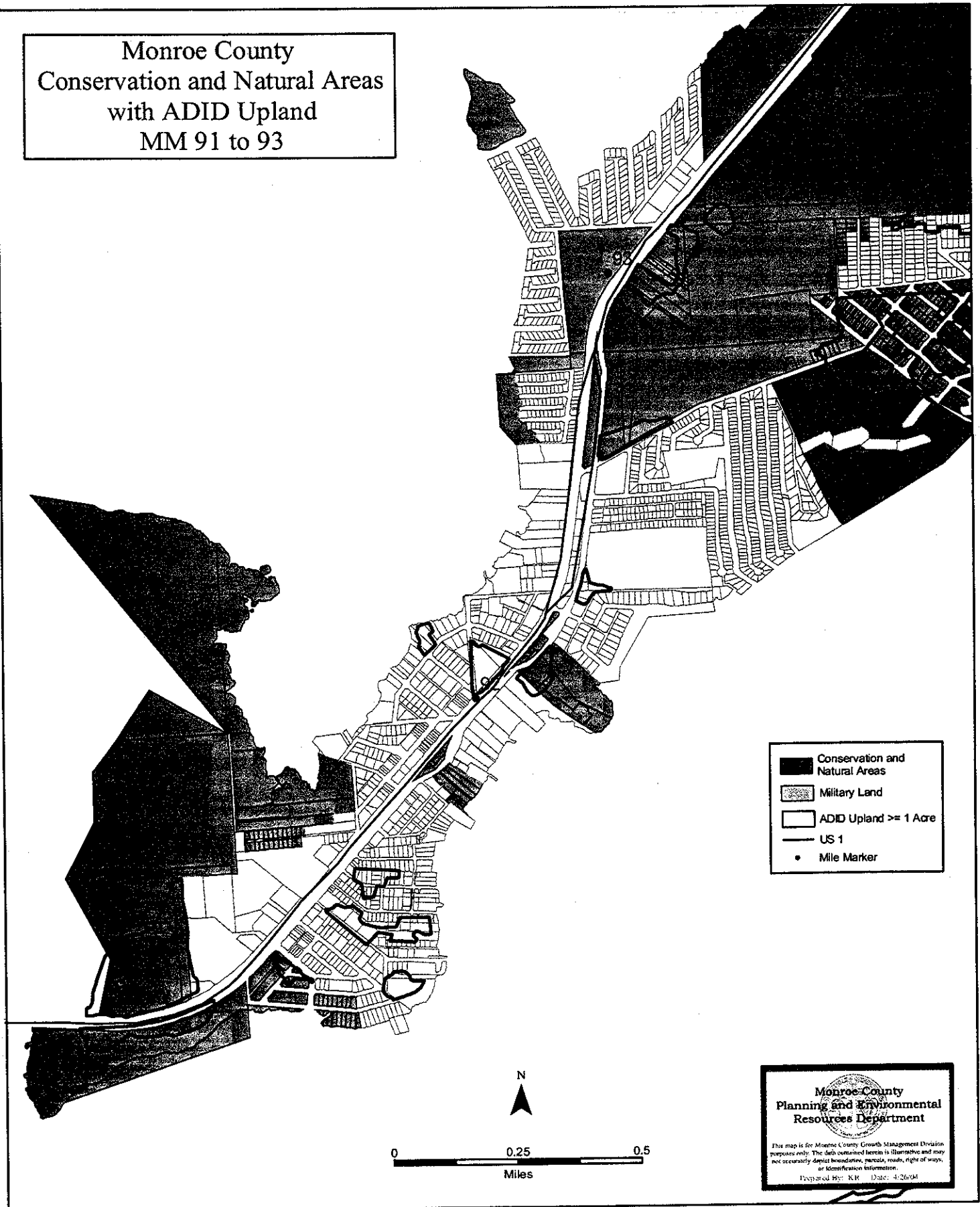


Monroe County
Planning and Environmental
Resources Department

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Prepared By: KR Date: 4/26/04

Monroe County
Conservation and Natural Areas
with ADID Upland
MM 91 to 93



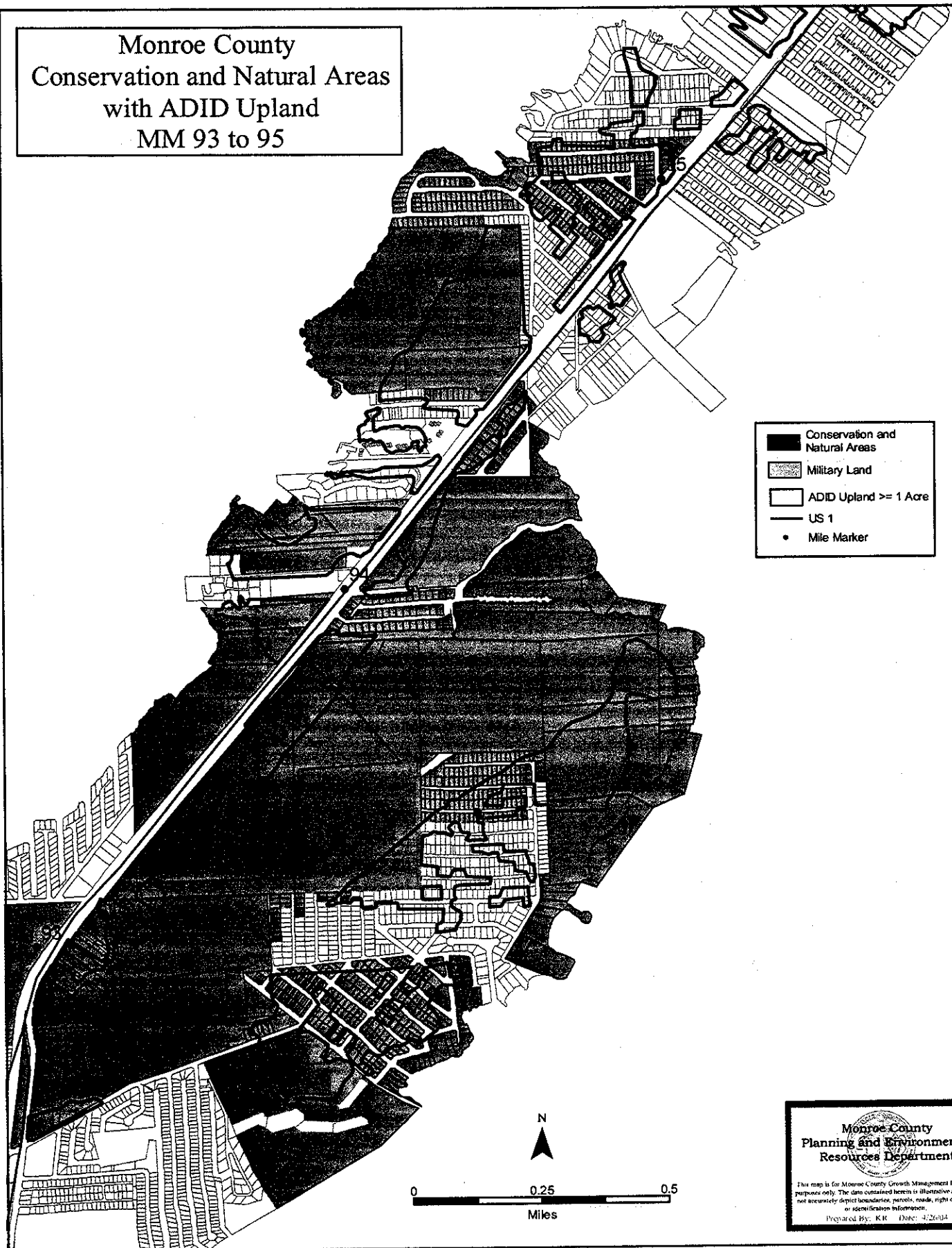
- Conservation and Natural Areas
- ▨ Military Land
- ADID Upland ≥ 1 Acre
- US 1
- Mile Marker

Monroe County
Planning and Environmental
Resources Department

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Prepared By: KR Date: 4-26-04

Monroe County
Conservation and Natural Areas
with ADID Upland
MM 93 to 95

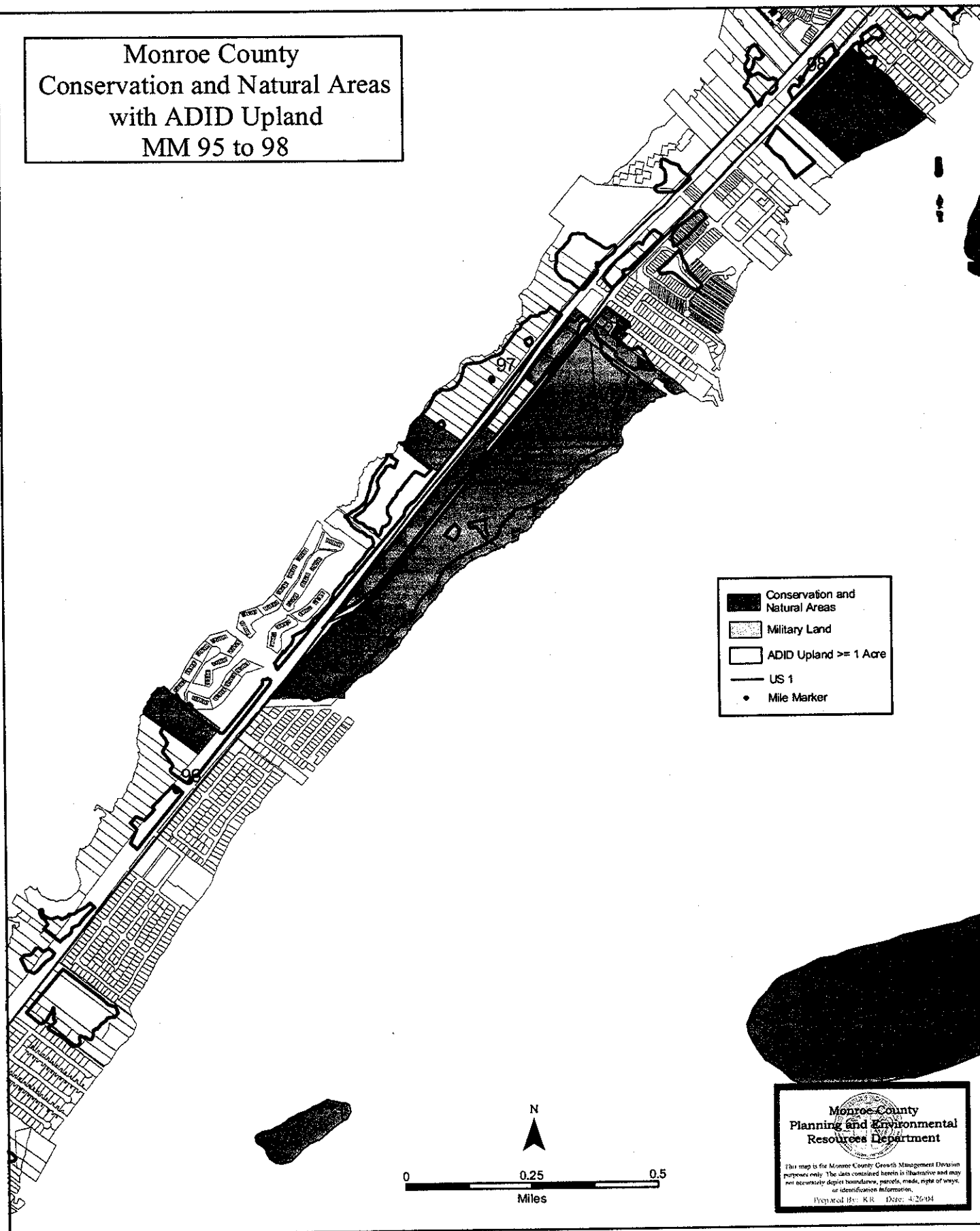


Monroe County
Planning and Environmental
Resources Department

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Prepared By: K.R. Date: 4/26/04

Monroe County
Conservation and Natural Areas
with ADID Upland
MM 95 to 98

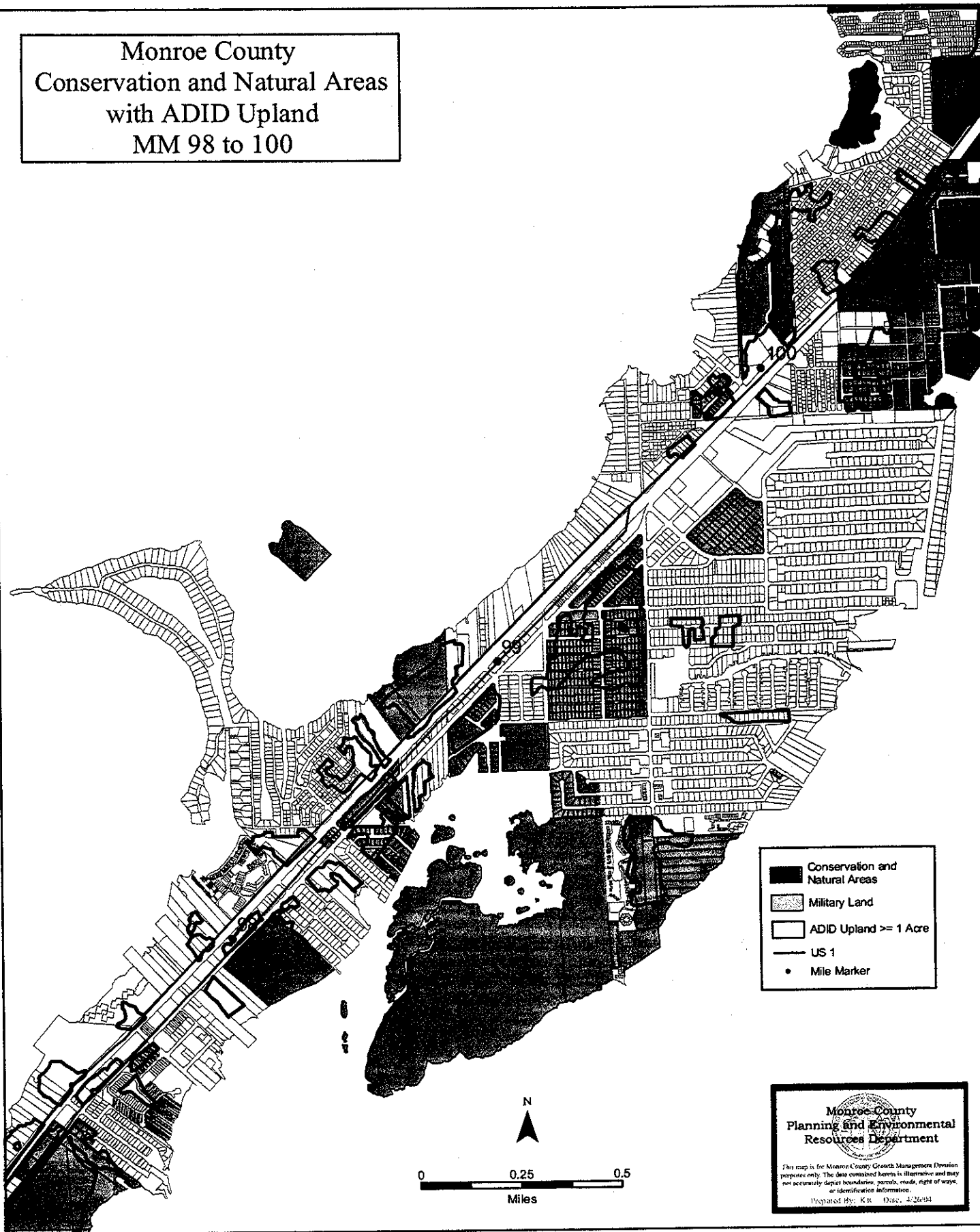


Monroe County
Planning and Environmental
Resources Department

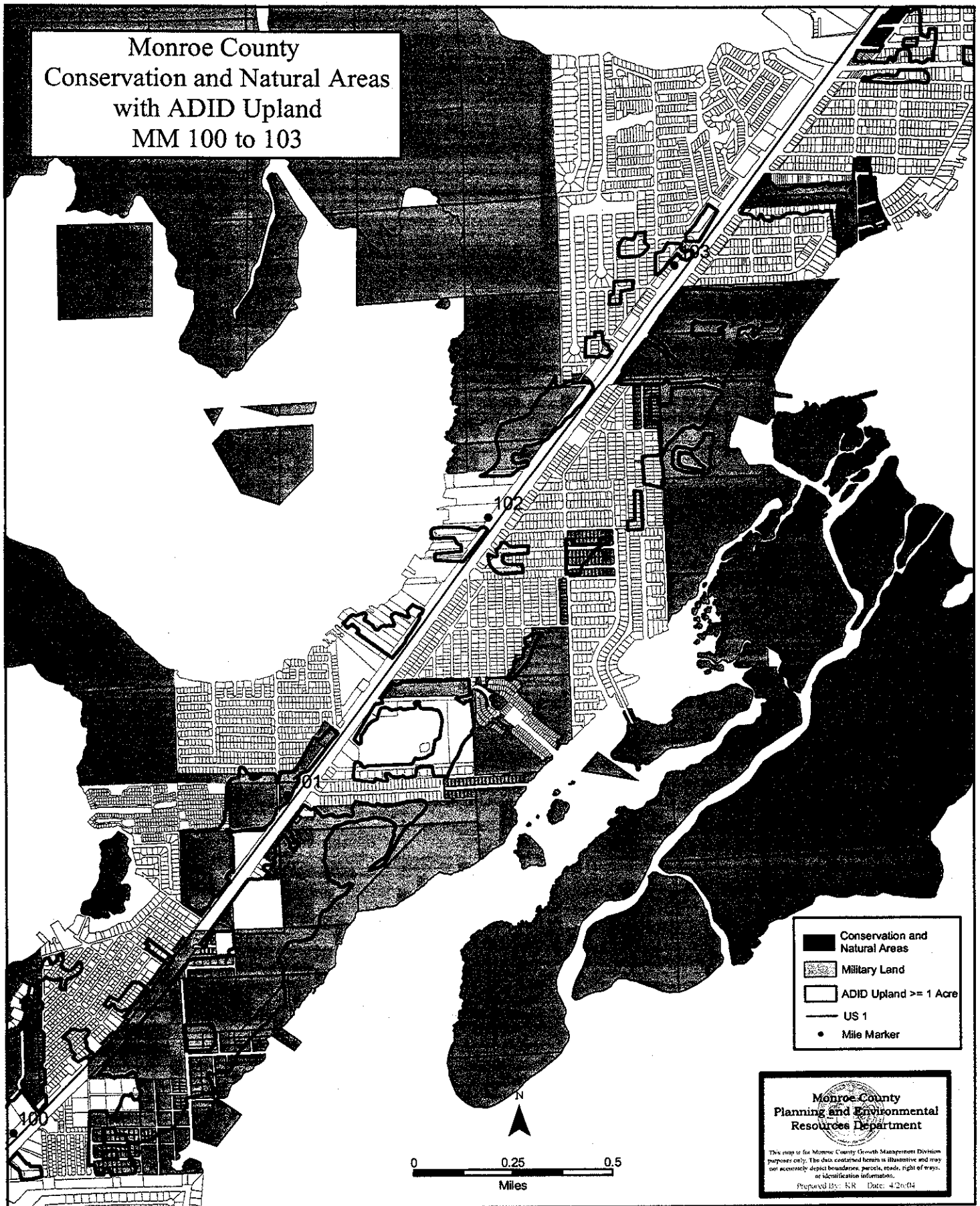
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Prepared By: K.R. Date: 4/26/04






Monroe County
Conservation and Natural Areas
with ADID Upland
MM 98 to 100

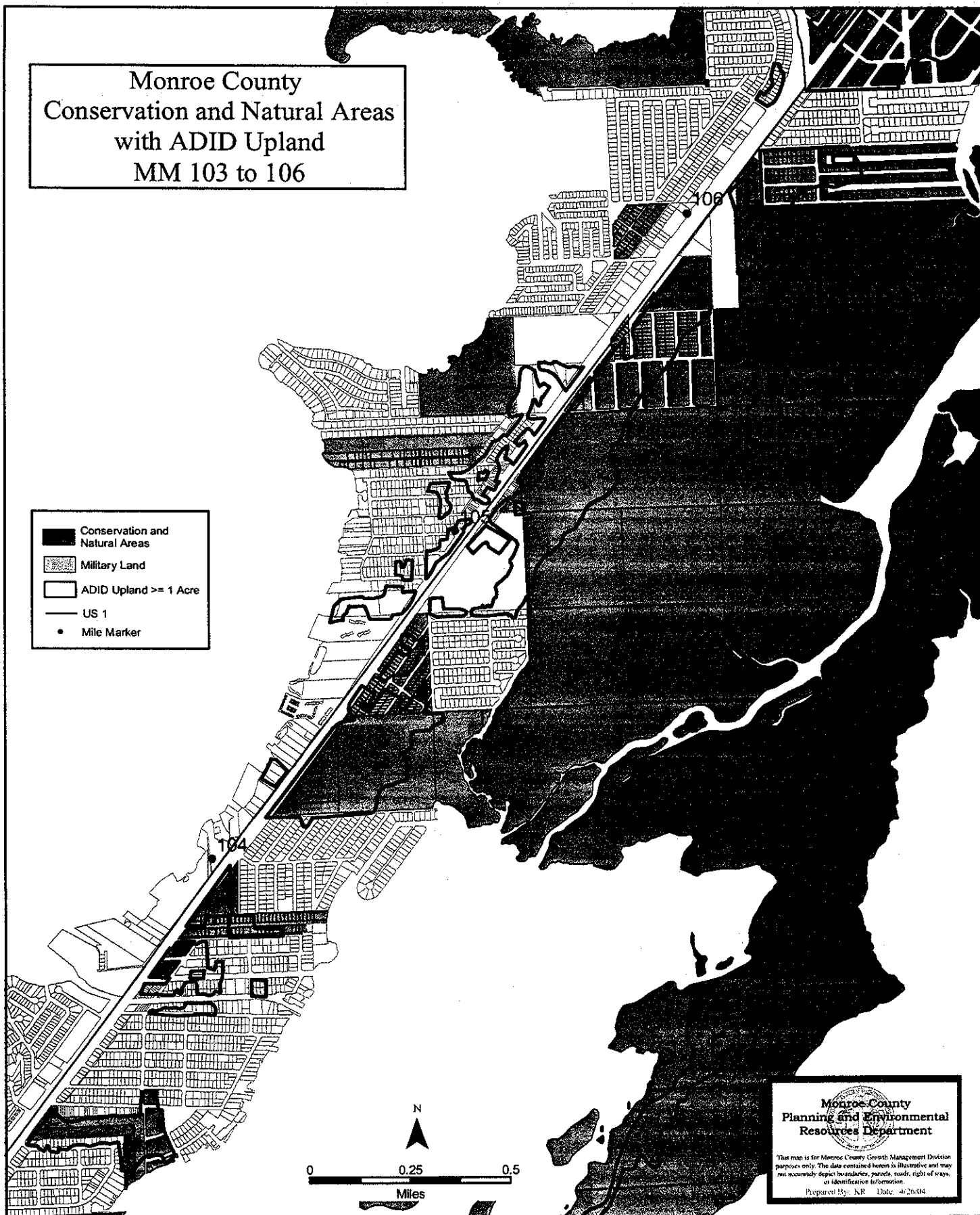


Monroe County
Conservation and Natural Areas
with ADID Upland
MM 100 to 103



Monroe County
Conservation and Natural Areas
with ADID Upland
MM 103 to 106

-  Conservation and Natural Areas
-  Military Land
-  ADID Upland ≥ 1 Acre
-  US 1
-  Mile Marker

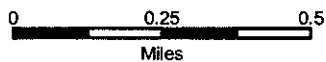
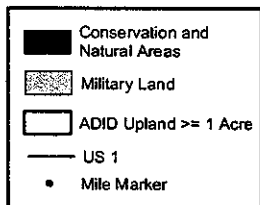


Monroe County
Planning and Environmental
Resources Department

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Prepared By: KR Date: 4/26/04

Monroe County Conservation and Natural Areas with ADID Upland MM 105 to 108



Monroe County
 Planning and Environmental
 Resources Department

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Prepared By: KR Date: 4/26/04

ATTACHMENT

5

HDR Engineering, Inc.
2202 N Westshore Blvd, Suite 250
Tampa FL 33607-5755
Phone: 813.282.2394 | Fax: 813.282.2440

MEMORANDUM

FROM: Ricardo N. Calvo, Ph.D. *RNC*
TO: Marlene Conaway, Monroe County
DATE: January 19, 2004
RE: Ecological Consequences of Small Habitat Patch Size

In 1967, MacArthur and Wilson predicted that larger islands are more likely to have a greater diversity of habitats, allowing a wider variety of species to co-exist (MacArthur and Wilson 1967). This prediction has been extended to address the effect of habitat fragmentation, particularly where developed areas surround habitat fragments. Models predict that smaller patches would have fewer species than larger patches of the same habitat type.

Biodiversity and ecological functions can be affected in three main ways with decreasing habitat patch size: a reduction in the number of species, an increase in the relative intensity of edge effects, and an increase in the patch's vulnerability to secondary human effects.

Smaller patches provide less room and habitat diversity for species. Therefore, fewer species can co-exist in smaller patches. Bancroft et al. (1995) showed that fewer forest-nesting bird species occurred in smaller hammock patches in the Florida Keys. Several species in the Florida Keys require minimum patch sizes of several acres for breeding or other key life history events. For example, white-crowned pigeon (*Columba leucocephala*) fledglings require patches larger than 12 acres for their initial dispersal (Strong and Bancroft 1994).

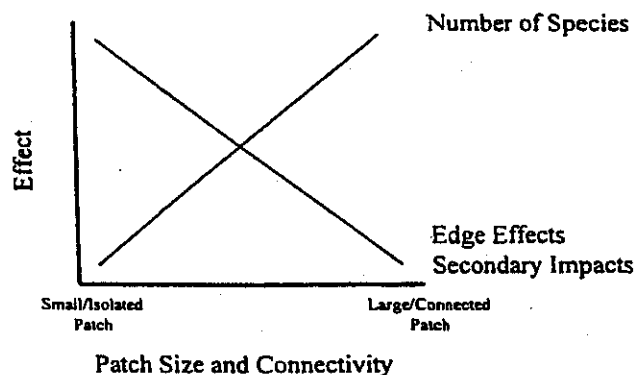


Figure 1. General depiction of the effects of habitat patch size/connectivity

Forest edges are subject to different conditions than forest interiors. Light exposure, temperature gradients, and other biophysical conditions are more extreme along the edge of the forest. Strong and Bancroft (1994) suggested that, in the Florida Keys, forest patches of less than 13 acres experience edge conditions throughout.

Finally, small forest patches are more vulnerable to secondary human effects, such as noise and light pollution, than larger patches. A summary of the literature on the extent of secondary effects into forest interiors suggested that secondary effects extend at least 500 feet into forest patches (U.S. Army Corps of Engineers 2003). To illustrate this effect, consider that the entire area of a circular forest patch with a diameter of 500 feet (approximately 18 acres) would be affected by secondary impacts.

In the Florida Keys, development has severely fragmented upland habitats; nearly 90% of the remaining patches are of 10 acres or less. A total of 33 patches of privately-owned upland forest remain outside Tier 1 in unincorporated Monroe County, excluding Big Pine Key and No Name Key. The ecological value of most of these small fragments is minimal. They occur mainly in subdivisions, adjacent to developed lots or roads and canals. A few of these patches represent green portions of developed parcels.

Conservation Implications

Because fiscal resources for land acquisition are limited, potential lands for conservation must be prioritized. Conservation and acquisition should focus on larger, connected habitat patches because they provide for a) the protection of a larger number of species, b) the preservation of ecological processes, and c) a buffer against the secondary impacts of human activity on native areas.

Efforts to preserve biodiversity and the ecological value of upland habitats in the Florida Keys should give priority to larger patches and those smaller patches that are or can be connected to larger patches. Tier 1 lands were delineated based on these criteria.

References

- Bancroft, G.T., A.M. Strong, and M. Carrington. 1995. Deforestation and its effects on forest-nesting birds in the Florida Keys. *Conservation Biology* 9:835-844.
- MacArthur, R.H. and E.O. Wilson. 1967. *The theory of biogeography*. Princeton University Press, Princeton, N.J. 120 pp.
- Strong, A.M. and G.T. Bancroft. 1994. Postfledging dispersal of white-crowned pigeons: implications for conservation of deciduous seasonal forests in the Florida Keys. *Conservation Biology* 8:770-779.
- U.S. Army Corps of Engineers. 2003. *Florida Keys Carrying Capacity Study, Final Report*. 131 pp.